

REMARKS

Claims 1 to 24 and 27-28 are pending. Claims 25-26 have been canceled. Claims 1 and 15 are amended.

§ 112 Rejections

Claims 26-28 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention as follows:

Claims 26-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 26 and 28 recite the limitation "the lever" and "the piston". There is insufficient antecedent basis for this limitation in the claim. Claim 27 recites the limitation in the claim. For examination purposes claims 26-28 are regarded as dependent on claim 25.

Applicants have amended claim 15 to include the limitations "the lever" and "the piston". Applicants have also canceled claims 25 and 26 with these amendments and Applicants request that the rejections be withdrawn.

In summary, Applicants submit that the rejection of claims 26-28 under 35 USC § 112, second paragraph, has been overcome, and that the rejection should be withdrawn.

§ 102 Rejections

Claims 1-10, and 15-24 stand rejected under 35 USC § 102(b) as being anticipated by Reed et al. U.S. Patent No. 4,839,048, as follows:

4. Claims 1-10, and 15-24 are rejected under 35 U.S.C. 102(b) as being anticipated by Reed et al. U.S. Patent No. 4,839,048.

Regarding claim 1, Reed (048) discloses a filter housing system comprising: a filter-housing sump (110,205) having a central cavity and an axial opening, the central cavity being configured and dimensioned for receiving and seating a filter media pack (201) therein; a filter housing head assembly (230) configured and dimensioned to fit on the filter housing sump (110, 205) such that axial opening is covered thereby; a clamping device (233) comprising: at least two curved members (235,236) each curved member having two ends; at least one hinge assembly (240,241), the curved members (235,236) being operatively pivotally attached to each other at one end by the hinge assembly (240,241); at least two tongue members (fig. 5) operatively

positioned at the second end of the curved members (235,236); and at least one fastening device (242, 243) being operative to force the two tongue members together such that an operator can generate sufficient torque to effectuate the seal there between (fig. 5 and 6).

Regarding claims 2 and 3, a radial body flange rim (225) surrounds the housing sump adjacent to the opening and has a substantially planar surface portion defined along its periphery (fig. 6); and the filter housing head assembly (230) further comprises: a radial flange rim of the housing sump when filter head assembly is operatively positioned on the housing sump (110, 205), the radial flange rim having a substantially planar surface portion define along its periphery for operatively contacting the planar surface portion (225) of the radial body flange rim when the filter head assembly is operatively connected onto the housing sump (110, 205) (fig. 6).

Regarding claims 4 and 7-10, the at least two tongues further comprise: means for receiving male (242) and female (243) fasteners which perform the identical function as the slots and bores disclosed herein in substantially the same way with substantially the same results that the clamping device is held in place to secure the sump to the head (fig. 5); the male fastener (242) comprises: a threaded eye bolt having a threaded portion of sufficient length and a round flat head with a smaller diameter than a bore in the two tongues (fig. 5, col. 6, lines 6-19); the female fastener (243) further comprises: a threaded bore and a knob having at least two protrusions which is sufficient to generate enough torque to operate the knob (fig. 5, col. 6, lines 6-19).

Regarding claim 5, the two curved members (235,236) are configured and dimensioned to engage both the radial body flange rim and the radial flange rim when a filter media pack is installed therein and the filter head is operatively positioned on the filter housing sump such that the compression load is distributed evenly around the entire outer periphery of the radial body flange rim and the radial flange rim when the clamping device is operatively engaged (fig. 5, col. 3, lines 14-26).

Regarding claim 6, the two curved members are shaped to correspond with the profile created by the radial body flange rim and the radial flange rim (fig. 5).

Regarding claim 15, Reed (048) discloses a filter housing system comprising: a filter-housing sump (110, 205) having a central cavity and an axial opening, the central cavity being configures and dimensioned for receiving and seating a filter media pack (201) therein; a filter housing head assembly (230) configured and dimensioned to fit on the filter housing sump (110, 205) such that axial opening is covered thereby; a clamping device (233) comprising: at least two curved members (235,236) each curved member having two ends; at least one hinge assembly (240,241), the curved members (235,236) being operatively pivotally attached to each other at one end by the hinge assembly (240,241); at least two tongue members (fig. 5) operatively positioned at the second end of the curved members (235,236); and at least one fastening device (242, 243) being operative to force the two tongue members together such that an operator can generate sufficient torque to effectuate the seal there between (fig. 5 and 6).

Regarding claims 16 and 17, a radial body flange rim (225) surrounds the housing sump adjacent to the opening and has a substantially planar surface portion defined along its periphery (fig. 6); and the filter housing head assembly (230) further

comprises: a radial flange rim of the housing sump when filter head assembly is operatively positioned on the housing sump (110, 205), the radial flange rim having a substantially planar surface portion define along its periphery for operatively contacting the planar surface portion (225) of the radial body flange rim when the filter head assembly is operatively connected onto the housing sump (110, 205) (fig. 6).

Regarding Claims 18 and 21-24, the at least two tongues further comprise: means for receiving male (242) and female (243) fasteners which perform the identical function as the slots and bores disclosed herein in substantially the same way with substantially the same results that the clamping device is held in place to secure the sump to the head (fig. 5); the male fastener (242) comprises: a threaded eye bolt having a threaded portion of sufficient length and a round flat head with a smaller diameter than a bore in the two tongues (fig. 5, col. 6, lines 6-19); the female fastener (243) further comprises: a threaded bore and a knob having at least two protrusions which is sufficient to generate enough torque to operate the knob (fig. 5, col. 6, lines 6-19).

Regarding claim 19, the two curved members (235,236) are configured and dimensioned to engage both the radial body flange rim and the radial flange rim when a filter media pack is installed therein and the filter head is operatively positioned on the filter housing sump such that the compression load is distributed evenly around the entire outer periphery of the radial body flange rim and the radial flange rim when the clamping device is operatively engaged (fig. 5, col. 3, lines 14-26).

Regarding claim 20, the two curved members are shaped to correspond with the profile created by the radial body flange rim and the radial flange rim (fig. 5).

Applicants hereby traverse the Examiner's 35 U.S.C. §102 rejections and respectfully submit that all currently pending claims are patentably distinguishable over Reed et al. U.S. Patent No. 4,839,048. Concerning the 35 U.S.C. § 102(b) rejections, as the Examiner knows, MPEP §2131 provides:

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. Of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). "The identical invention must be shown in as complete detail as contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). The elements must be arranged as required by the claim.

Contrary to the Examiner's assertions, Reed et al. U.S. Patent No. 4,839,048 does not disclose all elements of any of the present independent claims, either explicitly or inherently. Concerning the Examiner's rejection of the claims, it is respectfully submitted that the presently applied reference does not disclose, suggest or teach that which all present independent claims require that being "...wherein the bracket secures the clamping device to the filter housing head

assembly and is slidably engaged with the filter housing head such that the filter housing sump and the filter housing head assembly are readily separated one from the other...,” which is not taught by the Reed et al. U.S. Patent No. 4,839,048 reference, as clearly demonstrated by the Reed et al. U.S. Patent No. 4,839,048 disclosure. Thus, Applicants respectfully submit that Reed et al. U.S. Patent No. 4,839,048 reference does not anticipate the present independent and dependent claims as presently amended in that the Reed et al. U.S. Patent No. 4,839,048 reference does not disclose, suggest or teach “...wherein the bracket secures the clamping device to the filter housing head assembly and is slidably engaged with the filter housing head such that the filter housing sump and the filter housing head assembly are readily separated one from the other...,” as now required by the amended independent claims.

Concerning amended claim 1, as indicated above, Applicants have added a new feature to this independent claim that enables the filter housing assembly to be used in applications where the means for facilitating the detachment of the various components to effectuate filter media pack change out is believed to be particularly advantageous. Specifically, bracket 24 which may be used to secure the clamp 30 to the filter head assembly 22, a radial flange rim 26 which is configured and dimensioned to abut radial body flange rim 18 when filter head assembly 22 is put in position on housing sump 12. As can be seen in Figure 1, the bracket 24 is secured to the clamp 32 and to the filter housing head assembly via attachment means (not numbered) in the slots (not numbered) formed in the bracket 24. The mounting means of the clamp to the head, bracket 24, is effective such that the clamp can be movably (slides along the bracket) engaged/disengaged with the flanges on the sump and head.

Filter head assembly 22 includes, in one representative embodiment, a bracket 24 which may be used to secure the clamp 30 to the filter head assembly 22, a radial flange rim 26 which is configured and dimensioned to abut radial body flange rim 18 when filter head assembly 22 is put in position on housing sump 12

It is respectfully submitted that at least one difference between the applied reference with regard to claim 1-10 and 15-24 is whether or not the clamping device can be operated by only one operator, since the sump of the filter housing assembly requires an operator to use one hand to move the filter housing sump into engagement with the filter housing head assembly and then hold the filter housing sump in engagement with the filter housing head assembly which is connected to the process line. A single operator must perform all remaining tasks with only their other hand or else secure assistance from another operator. Thus, as required in the present independent claims, the location and structure of the connection of the clamping device to the filter housing head assembly is unique in that the clamping devices of the applied references seem to be connected to be housing body at the hinge area (center of clamp),

while our claims, among other things, require that the connection to the clamping device is made in the center of one clamp component or flange via a bracket having a sliding mechanism such that an operator can use one hand to slide the clamping device into engagement with the filter housing sump while maintaining the filter housing sump in engagement with the filter housing head assembly. After lifting the filter housing sump up into contact with the housing head assembly with a first hand, the sump flange and the head flange are connected by the operator easily by use of the second hand, while holding the sump and the head together with the first hand and to tentatively secure the connection between the filter housing sump, the filter assembly head and the clamping device, as should be apparent from Figures 1 and 15.

It is believed that the present innovation, as now described in the independent claims, allows, among other things, for a single operator to utilize a first hand to move the sump into operative contact with the head and then use the second hand, while the first hand is holding the sump in position, to effectively tentatively assemble and then operatively connect the various components of the present innovation, as now described in the independent claims, via sliding the unique bracket 24, as opposed to twisting the head and sump part together, as required by at least one applied reference, in order to tentatively mount them together thereby allowing a single operator to effectively assemble and then operatively connect the various components together without difficulty.

A further amendment has been made to claim 1, in order to ensure proper basis from the description and figures and to show that the bracket claimed is both novel and unobvious over the cited prior art.

As stated in the description, the “*bracket 24 [...] may be used to secure the clamp 30 to the filter head assembly 22*” (paragraph [0034]). This is now reflected in revised claims 1 and 15, where “*the bracket secures the clamping device to the filter housing head assembly*”.

As is shown in Figures 1 and 15, the bracket 24, described as being used to secure the clamp 30 to the filter head assembly 27, has two grooves (unnumbered) and two circular members (unnumbered) positioned therein. The function of these elements is clear when considering the operation of removal of the filter sump from the filter head assembly. Disengaging the fastener 40 from fastener 42 enables the curved arm 32a to be swung out of engagement with the radial flange rims 18, 26, thus exposing the outer edges and the lower and upper surfaces respectively of the radial flange rims 18, 26. However, without sliding the unnumbered circular members seated in the unnumbered grooves in bracket 24, both the upper and lower edges of the curved arm 32b remain overlapping with the upper surface of radial flange rim 26 and the lower surface of radial flange 18. At this point, without the circular

members sliding in the grooves radially toward the centre of curvature of the curved arm 32b, the filter head assembly cannot be separated from the housing sump 12.

Referring to Figure 2, the radial body flange rim 18 is in contact with radial flange rim 26 along planar surface portions 20, 28. At the point of contact between the planar surface portion 28 of radial flange rim 26 and the planar surface portion 20 on radial body flange rim 18, when filter head assembly 22 is fitted on to housing sump 12, there is an overlap. This overlap is indicated by, for example, a stepped portion of the planar surface portion 20 of the radial body flange rim 18 in Figure 11. Removal of the filter housing sump 12 cannot therefore be effected unless the curved arm 32b is disengaged. The only way to disengage the curved arm 32b is by moving the filter head assembly 22 away from the curved arm by way of the slidable relationship between them.

A further amendment to claim 1 is therefore proposed in which the bracket 24 is “*slidably engaged with the filter housing head such that the filter housing sump and the filter housing head assembly are readily separated one from the other*”. From the above illustration it is clear that such an arrangement is envisaged, since if the bracket were to secure the clamping device to the filter housing head assembly without relative sliding means it would not be possible to remove the filter housing sump. It is completely self-evident to the skilled reader that the drawn features of the bracket in figures 1 and 15 provide such a function. It is therefore clear to one skilled in the art and to any generally informed reader that such slidable engagement between the bracket and filter housing head assembly is unambiguously derivable from at least figures 1 and 15.

The cited reference shows brackets which are pivoted or fixed in relation to the filter housing. No reference discloses suggests or teaches a bracket which is slidably engaged with the filter housing head, as in amended claim 1.

Corresponding amendment has been made to claim 15.

In view of the above, Applicants respectfully submit that amended claims 1 and 15 are not anticipated by the applied reference, thus, the rejection of claims 1-10, and 15-24 under 35 USC § 102(a) as being anticipated by Reed et al. U.S. Patent No. 4,839,048 has been overcome and should be withdrawn and an action acknowledging same is respectively requested.

§ 103 Rejections

Claims 11-12, 14, 25-26 and 28 stand rejected under 35 USC § 103(a) as being unpatentable over Reed (048) in view of Knuth U.S. Patent No. 3,399,776 as follows:

5. Claims 11-12, 14, 25-26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed (048) in view of Knuth U.S. Patent No.

3,399,776. Reed (048) discloses the filter housing system but does not disclose the head having a lever and piston assembly. Knuth (776) teaches a filter assembly with a head having a lever (41) and piston (40) assembly for applying pressure to the filter media pack (20), the lever (41) is pivotally mounted on the filter head and operatively associated with the piston (40) and the lever and piston assembly is configured to cooperate so that the force is translated to the piston by the lever at a location closer to the pivotal mounting of the lever than its opposing free end (fig. 1-5, col. 2, lines 26-59). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the lever and piston assembly of Knuth (776) because the assembly provides a mechanism for releasing the filter unit from the head unit and to close the valve of the head unit (col. 2, lines 37-59).

Further, Claims 13 and 27 stand rejected under 35 USC § 103(a) as being unpatentable over Reed (048) in view of Knuth U.S. Patent No. 3,399,776 as applied to claims 11 and 25 above, and further in view of Reid et al. U.S. Patent No. 5,744,030 as follows:

6. Claims 13 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed (048) in view of Knuth (776) as applied to claims 11 and 25 above, and further in view of Reid et al. U.S. Patent No. 5,744,030. Reed (048) in view of Knuth (776) teaches the filter housing system with a lever and piston assembly but does not teach the piston slidable. Reid (030) teaches a filter assembly with a lever (114) and piston (112) assembly wherein the piston (112) is mounted for slidable movement extending from the exterior of the filter head to the interior of the filter housing to contact the filter media (fig. 3). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the lever and piston assembly with that of Reid (030) because the poston (112) prevents an accidental counter-rotation of the filter cartridge (col. 7, lines 34-35).

As the Examiner knows, the Examiner carries the burden under Section 103 to establish a *prima facie* case of obviousness, *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988), and must show that the references relied on teach or suggest all of the limitations of the claims. *In re Wilson*, 424 F.2d 1382, 1385 (C.C.P.A. 1970). "Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching, suggestion or incentive supporting the combination." *Carella v. Starlight Archery*, 804 F.2d 135, 231 U.S.P.Q. 375 (Fed. Cir. 1986). There must be some explicit teaching or suggestion in the art to motivate one of ordinary skill to combine the references in the manner suggested. See, *Arkie Lures, Inc. v. Gene Larew Tackle, Inc.*, 119 F.3d 953, 957, 43 U.S.P.Q.2d 1294 (Fed. Cir. 1997); *Fromson v. Anitec Printing Plates, Inc.*, 132 F.3d 1437, 45 U.S.P.Q.2d 1269 (Fed. Cir. 1997).

In view of the amendments to the independent claims, Applicants believe that the Examiner is unable to establish a *prima facie* case of obviousness, as the references relied upon do not disclose, suggest or teach all of the limitations of the presently amended independent claims. Since the secondary references cannot make up for the deficiencies of the primary applied reference, Applicants submit that all remaining claims are allowable. Accordingly, the independent claims, and each of the claims depending respectively therefrom, are not rendered obvious by the combination of Smith et al. in view of any of the applied secondary references. Therefore, withdrawal of the rejection under 35 U.S.C. §103(a) is respectfully requested.

As illustrated above, Applicants note that there is no specific mention of a filter housing head assembly having a bracket “...wherein the bracket secures the clamping device to the filter housing head assembly and is slidably engaged with the filter housing head such that the filter housing sump and the filter housing head assembly are readily separated one from the other...”. In fact, Applicants are unable to locate any mention what so ever thereof in any applied reference, and an action acknowledging same is respectfully requested in view of the above and the material directed to responding to the anticipation rejection also above.

In view of the above, Applicants respectfully submit that all claims, Claims 1 to 24 and 27-28 remaining in the application are now in condition for allowance and an action acknowledging same is respectfully requested.

In view of the above, it is submitted that the application is in condition for allowance. Reconsideration of the application is requested. Allowance of claims 1 to 24 and 27-28, as amended, at an early date is solicited.

Respectfully submitted,

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